waller

Waller Lansden Dortch & Davis, LLP
511 Union Street, Suite 2700
P.O. Box 198966
Nashville, TN 37219-8966

615.244.6380 main
615.244.6804 fax
wallerlaw.com

W. David Bridgers
615.850.8529 direct
david.bridgers@wallerlaw.com

December 22, 2016

Via Electronic Mail and U.S. Mail

Mr. Michael Mintzer
Assistant Regional Counsel
U.S. Environmental Protection Agency, Region 2
Office of Regional Counsel
290 Broadway, 17th Floor
New York, NY 10007

Ms. Caroline Kwan
Remedial Project Manager
Special Projects Branch
Emergency and Remedial Response Division
U.S. Environmental Protection Agency, Region 2
290 Broadway, 20th Floor
New York, New York 10007-1866

Re: Newtown Creek NPL Site/Newtown Creek Group
Notice of Dispute Resolution regarding the BERA

Dear Michael and Caroline:

I write to inform you that the members of the Newtown Creek Group (the "NCG") hereby invoke Dispute Resolution, pursuant to paragraphs 64-66 of the "Administrative Settlement Agreement and Order on Consent for Remedial Investigation/Feasibility Study" (the "AOC"). The NCG is invoking Dispute Resolution in response to Caroline Kwan's e-mail of December 08, 2016 informing the NCG: (1) that EPA disapproves in part with Anchor QEA's proposed modifications (Anchor QEA's Response Matrix August 2016) to Anchor QEA's Draft Baseline Ecological Risk Assessment submittal (February 2016); (2) that it has to submit a modified Draft Baseline Ecological Risk Assessment responsive in full to the attached EPA responses (December 2016); and (3) that Anchor QEA's resubmittal, responsive to all EPA comments shall be provided by no later than January 23, 2017. The NCG is invoking Dispute

Resolution because the January 23, 2017 submittal deadline is unreasonable and unnecessary, and because the NCG believes that a number of directives included in EPA's December 2016 responses are inconsistent with the methodologies and analyses included in the EPA-approved Phase 2 RI Work Plan – Volume 1 (Anchor QEA 2014a), are not supported by the use of the best available science as incorporated in EPA guidance documents, and are not supported by the data collected and analyses performed as included in the Draft Baseline Ecological Risk Assessment (Anchor QEA – February 2016), also as explained below. Additionally, as explained below, there are a number of directives in EPA's December 2016 responses that the NCG believes are confusing and, in some cases, appear to be contradictory. The NCG is not including these directives in this formal dispute, but respectfully requests an opportunity to meet with EPA to discuss these directives to work toward resolution on an agreed upon approach to incorporating these directives into the revised risk assessment report. The NCG reserves its rights to include these items in the dispute if discussions with EPA do not result in an agreed upon approach.

The NCG is also concerned with several administrative aspects of this review and Dispute Resolution process. Specifically:

- EPA took almost 26 work weeks to review the document in dispute, then imposed on the NCG a very stringent deadline, which time period included the Christmas / New Year Holidays, to respond to the numerous and somewhat conflicting comments. This is inconsistent with obtaining a quality work product for public stakeholders.
- In addition to our substantive concerns with EPA's comments on the BERA, the NCG wants to discuss with EPA the identity and role of the EPA decision maker for disputes. This is similar to an issue we previously have discussed with EPA. The NCG reserves its rights with respect to this issue pending our further discussion with EPA on this matter.

The January 23, 2017 Deadline for Submission is Not Reasonable and Should Be Reset to Provide the NCG With Adequate Time to Complete the BERA Following the Completion of the Dispute Resolution Process.

The NCG submitted its comment response matrix on August 1, 2016. EPA took 129 days to provide its response. In that response, EPA has directed the NCG to undertake a number of additional statistical analyses in addition to making numerous revisions to the text. Forty six days is not an adequate amount of time in which to complete that work in ordinary circumstances, and because that 46 day period includes the holiday season, EPA has effectively given the NCG far fewer than 46 days in which to complete that work. Moreover, many of EPA's comments are unclear, and the NCG will need to secure clarification from EPA on those comments before it can commence with much of the required work. For those reasons, EPA should work with NCG to set a reasonable submission deadline that permits the NCG an adequate amount of time to submit the BERA once the parties have completed the dispute resolution process. Given the recent extension of the RI Report review and approval process presented by EPA on December 1, 2016, there is not a time-critical driver to finalize the BERA within the first quarter of 2017.

EPA's Directives to Compare Sediment Toxicity and Benthic Community Results in the Study Area to the Results from Each of the Four Phase 2 Reference Areas and to Screen Reference Area Chemistry Data Against the Acceptability Criteria Used by EPA in its Phase 2 Reference Area Selection Process is Inconsistent with the EPA-Approved Phase 2 RI Work Plan Volume 1; Does Not Reflect the Best Available Science to Evaluate Exposure to Sediment-Sorbed Contaminants; and Will Not Result in Risk Management Decisions That Consider the Important Anthropogenically Caused Stressors in the Study Area. EPA's Directives on these items are included in Comment ID Nos. 3, 12, 95, 106, 107, 108, and 125.

EPA guidance clearly and unequivocally states: "The reference area should have the same physical, chemical, geological, and biological characteristics as the site being investigated but has not been affected by the activities on the site" (EPA 2002). The Newtown Creek Study Area, in the past and currently, is an industrialized waterbody in one of the largest urban centers in the world and is impacted by ongoing discharges from large combined sewer overflow (CSO) outfalls located primarily in the tributaries and in the vicinity of the Turning Basin. Suitable reference areas should also have these attributes, consistent with EPA guidance. The EPA-approved *Remedial Investigation/Feasibility Study Work Plan* (AECOM 2011) listed eight preliminary reference areas based on a review of available information. These eight preliminary reference areas are almost exclusively industrial waterbodies and many of them are influenced by ongoing CSO discharges. The selection of final reference areas for the Baseline Ecological Risk Assessment (BERA) was an EPA-led process started in 2011 that led to the selection in 2014 of four reference areas, one from each of four categories defined by whether areas were industrialized or not and whether the waterbodies were impacted by CSO discharges or not.

The selection process was informed by data collected in October 2012 as part of the EPA-approved reference area reconnaissance study, in addition to existing available data. During the final selection process, EPA in a technically incorrect manner, downplayed the importance of identifying reference areas with the same physical, chemical, geological, and biological characteristics as the Study Area by applying low weighting factors to the metric scores developed by the NCG for these characteristics on the basis that many of the metric scores were qualitative, regardless of the obvious similarities between these areas and Newtown Creek. Conversely, EPA applied a high weighting factor to a series of "quantitative" metrics meant to evaluate the acceptability of candidate reference areas on the basis of sediment chemical contamination. Throughout this process EPA has effectively ignored its own

guidance documents (Burgess 2009; Burgess et al. 2013; EPA 2003, 2005, 2012), which indicate that bulk sediment chemistry is a poor predictor of sediment toxicity. As a result of applying low weighting factors to metrics at least as important as sediment chemical contamination and a high weighting factor to a metric that is a poor predictor of adverse effects, EPA effectively skewed the selection of three reference areas out of a total of four that are very different from Newtown Creek, currently and in the future.

The NCG as directed by EPA had no choice but to accept the outcome of this flawed process, and subsequently developed a Work Plan for sampling these four reference areas and analyzing the data in the BERA. The Phase 2 RI Work Plan Volume 1 is clear that the data quality objectives process intended to combine the data from the four reference areas (see final paragraph of Section 3.2.7 page 70 of Phase 2 RI Work Plan Volume 1) to evaluate potential impacts to the benthic community and to evaluate sediment toxicity as part of an integrated sediment quality triad approach. EPA approved this Work Plan, including the unambiguous focus on porewater as the primary route of exposure for benthic invertebrates to contaminated sediments. The process should be driven by the scientific data, not a desired outcome.

Notwithstanding its approval of the Phase 2 RI Work Plan Volume 1, EPA is now directing the NCG to separate the four reference areas for purposes of comparing the results of benthic community and sediment toxicity studies in these reference areas with the Newtown Creek Study Area, even though three of the four reference areas bear little to no resemblance to Newtown Creek. Comparing the individual results from three of the four reference areas to results from the Study Area will not drive any meaningful conclusions regarding benthic community impacts and/or sediment toxicity because these three reference areas have limited similarity to Newtown Creek currently and in the future, and these comparisons are meaningless with respect to making risk management decisions. In addition, such comparisons, as seen at

other EPA sites selection of flawed / biased reference areas only serve to drive unrealistic and unsustainable remedies.

In addition to the NCG's disagreement with incorrect comparisons using reference area data from a flawed reference area selection process, the NCG also continues to disagree with EPA's directive to screen the reference area sediment chemistry data using the same acceptability criteria employed by EPA in the same flawed final reference area selection process. The NCG has already commented on this directive, when EPA first raised it on January 28, 2016, in a memorandum submitted to EPA on March 3, 2016. In its memorandum, in addition to demonstrating that the Phase 2 RI Work Plan Volume 1 never contemplated going back to the reference area selection process, the NCG also effectively demonstrated that porewater concentrations of sediment contaminants of potential ecological concern (COPECs) were below levels associated with reduced survival of benthic invertebrates and, for this reason, all reference area stations should be used in the BERA. Arbitrary exclusion of select reference area stations by EPA, after the fact, raise significant due process questions that we believe deserve review and discussion. Section 8.3.3.5.2 of the BERA (Anchor QEA 2016) provides additional explanation about the causes of reduced survival at some reference area stations where porewater concentrations are below effect levels.

EPA's Directives to Compare Bulk Sediment COPEC Concentrations to Porewater COPEC Concentrations and to Move All Discussions Regarding Anthropogenic Confounding Factors to the Uncertainty Analyses Section of the BERA Trivializes the Importance of Understanding the Complex Processes that Control Equilibrium Partitioning of COPECs between Porewater and Sediment and Will Lead to Poorly Informed Risk Management Decision-making that Ignores the Contribution of "Non-CERCLA Stressors."

Sediment-Porewater Relationship

The following addresses EPA's responses to Comment ID Nos. 9, 16, 29, 91, 97, and 138 regarding the evaluation of COPECs in sediment and porewater.

EPA wants the BERA to evaluate porewater and bulk-sediment chemical data independently, and to also relate porewater chemistry to sediment chemistry to support risk management decisions. EPA has incorrectly interpreted the BERA to have ignored COPECs and to have only focused on porewater concentrations of polycyclic aromatic hydrocarbons (PAHs) and some metals in assessing risk to benthic macroinvertebrates.

To the contrary, the first step of the BERA was a comprehensive re-screening of all bulk-sediment chemical concentrations collected in Phase 1 of the RI, in Phase 2 of the RI, and by National Grid. Those chemicals were evaluated in the Screening Level Ecological Risk Assessment (SLERA) in Section 5 of the BERA according to the procedures presented in the EPA-approved Phase 2 RI Work Plan Volume 1 (Anchor QEA 2014a) and the *Baseline Ecological Risk Assessment Problem Formulation* (BERA PF; Anchor QEA 2014b). Per EPA directive, the sediment re-screen was conducted using EPA's hierarchy for selecting the screening levels. The chemicals identified as sediment COPECs were then evaluated in more detail in the baseline analyses of the BERA. As described in the EPA-approved Phase 2 RI Work Plan Volume 1 (Section 3), and the risk analysis plan of the BERA PF (Section 8.5), the sediment COPECs were evaluated in the baseline analyses by a comprehensive sediment toxicity testing program that included the synoptic measurement of porewater COPECs, as well as bulk sediment measurements of acid volatile sulfide (AVS) and simultaneously extracted metals (SEM), pre- and post-toxicity testing. As approved by EPA, porewater collected using peepers was

analyzed for all metal COPECs, and porewater collected using solid-phase microextraction (SPME) was analyzed for all pesticide COPECs and all polychlorinated biphenyl (PCB) congeners.

As presented in the BERA, measured bulk sediment the sum of (∑) SEM – AVS values were all below zero (see BERA Attachment E, Figure E1-1), demonstrating the lack of bioavailability for these metals in sediment. Similarly, as presented in the BERA (see Section 8.3.3, Table 8-4a), the concentrations of most of the COPECs were below surface water thresholds, even at their maximum concentration (toxic units [TUs] less than 1). This is true for metals such as arsenic, chromium, and mercury, and cadmium and nickel, two of the five metals that are included in the SEM TU calculation, as well as organics. Sediment COPECs for which porewater TUs are greater than 1 are discussed at length in the BERA. However, after the screening process is completed, there is no need to further evaluate COPECs in bulk sediment, and there is no need to evaluate identified sediment COPECs for which porewater TUs are less than 1. EPA scientists have developed guidance that recognizes the limits of bulk sediment-based evaluations and recommends porewater-based evaluation to fully incorporate bioavailability (Burgess 2009; Burgess et al. 2013; EPA 2003, 2005, 2012).

With regard to the relationship between sediment and porewater COPECs, as acknowledged by EPA in its response to Comment ID No. 9, COPEC concentrations in porewater may or may not be related to COPEC concentrations in bulk sediment because of differences in chemical-specific bioavailability. It is not uncommon to have elevated bulk sediment concentrations and low bioavailability due to chemical partitioning, particularly to carbon (the Study Area has both high natural and anthropogenically derived organic carbon). Furthermore, even with measured porewater data, the complexity of sediment and porewater chemistry at a site such as Newtown Creek further adds to the challenges of interpreting the results of sediment toxicity tests. For example, as demonstrated in Figures

8-19 to 8-24 in the BERA, some of the sediment toxicity can be explained by porewater concentrations of PAHs. However, there are a number of stations for which the toxicity cannot be explained by porewater PAHs or any other porewater COPECs. However, this does not invalidate the usefulness of a porewater-based evaluation, particularly when considering the influences of confounding factors, as explained more fully below.

Confounding Factors

The following provides a response to EPA's Comment ID Nos. 1, 138, 139, and 235, which concern the confounding factor analysis. EPA states: "discussions on the non-CERCLA stressors or confounding factors should be eliminated from the report or at least discussed in the uncertainty section." Also: "Removing stations based on claims of confounding factors is misleading and unsupported by the data set, which is arbitrary and biased because only a limited number of sample locations were included in the C19-C36 analysis shown by Anchor as described by the City in multiple comments in the primary submittal."

In contrast to EPA's statements, the analysis is neither arbitrary nor biased because it is supported by site-specific data and published scientific information. In fact, deleting the confounding factors analysis from the main body of the report would be misleading, arbitrary, and factually incomplete, because it would leave in place concentration-response relationships for CERCLA hazardous substances[1]

[1] CERCLA regulates not only "hazardous substances," but also "pollutants and contaminants." The latter term is broadly defined to include "any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism . . . will or may reasonably be anticipated to cause death, disease [etc.] . . . in such organisms." 42 U.S.C. § 9601(33). Thus, whatever under the applicable definition causes toxicity to benthic organisms in the creek is subject to CERCLA and is the proper subject of the risk assessment.

that are less robust and do not take into account the full range of site-specific data and scientific information available concerning the issues.

Furthermore, the BERA Problem Formulation, which was approved by EPA, clearly indicates that the confounding factors analysis was to be included in the risk characterization section of the BERA. As stated in Section 8.5.5: "The risk characterization will also include an evaluation of confounding factors as indicated in Section 8.5.2 for the benthic community and Section 8.5.3 for toxicity testing. These analyses will provide information on the uncertainties associated with the risk estimates of the CERCLA contaminants because of other stressors in the Study Area and will evaluate the degree to which these other stressors contribute to the total risk estimates."

The BERA contains a detailed analysis of the sediment toxicity results, and in particular, an analysis of the causative factors resulting in the observed toxicity. This analysis is performed in a manner consistent with current scientific practice. Following the state of the science, the analysis includes correlation analysis with CERCLA hazardous substances. The analysis focuses on porewater concentrations because these are considered by the scientific community to be more representative of biological availability than bulk sediment concentrations. [Note that porewater data are considered representative of the chemical availability for biological exposure; the actual exposure may be through porewater respiration or ingestion of sediment. The concept is that to the extent exposure is via sediment ingestion, bioavailability is best represented by porewater concentrations. This approach is consistent with EPA guidance (Burgess et al. 2013; EPA 2003, 2005, 2012]. It is well-accepted in the scientific community that correlation, although suggestive of causation, does not prove causation. As might be expected in a site with a long urban industrial history, toxicity is correlated with many substances. Therefore, additional, independent analyses were performed to evaluate the potential for CERCLA

hazardous substances to be true causes of the observed effects. The first line of evidence was the, which as discussed previously, was based on screening against bulk sediment chemical concentrations. The second line of evidence was the analysis of SEM and AVS for a subset of metals. The third line of evidence was the comparison of porewater concentrations to toxicity benchmarks, for which water quality criteria and primary literature sources were used. Finally, following good scientific practice, inconsistencies in the data were evaluated as a line of evidence, in particular the observation of a wide range of toxicity results at similar CERCLA hazardous substance concentrations.

In particular, it was found that at low porewater PAH concentrations, samples with both high survival and low survival were found. Whereas, most samples exhibited a "classic" concentration-response relationship, some samples exhibited significant biological effects at low porewater PAH concentrations, which would not be expected to be high enough to elicit adverse effects. This inconsistency raised questions that are critical to the primary goal of the BERA, namely, to evaluate the presence of toxicity and the potential linkage of that toxicity to specific CERCLA hazardous substances.

The BERA then provided a detailed evaluation of these inconsistencies, which resulted in an improved relationship between PAHs and biological impacts after consideration of confounding factors. The observed impacts in the remaining samples were reasonably ascribed to other chemicals.

The only reason that EPA considers this analysis inappropriate for the main body of the risk assessment is because those additional chemicals are not CERCLA hazardous substances. Because they are not considered CERCLA hazardous substances, EPA has requested the analysis be placed into the Uncertainty Analyses section. However, no one to our knowledge disputes that they are pollutants of human origin. To remove them from the primary analysis removes scientific information arbitrarily

based on a regulation-based classification of contaminants, despite the fact that they help explain the patterns in the data presented in the main body of the report. This weakens the usefulness of the BERA in meeting the needs of the project (i.e., supporting remedial decision-making concerning CERCLA hazardous substances).

Uncertainty analysis in the Superfund program as envisioned by EPA focuses on uncertainty bounds, such as evaluating model assumptions to establish the direction and magnitude of outcomes, and presenting ranges of exposure parameters and toxicity reference values relevant to site conditions (EPA 1989), as well as factors that in general reduce the precision of the results. The analysis of confounding factors is not this, but rather, as described in Section 7.4.1 of EPA (1997), represents an uncertainty associated with the conceptual site model (CSM). The confounding factors in this BERA are anthropogenic compounds that are likely key players; their analysis is required to address inconsistencies in the biological response data and, therefore, to develop a reliable basis for decision-making. Without their inclusion, the CSM would be incomplete.

EPA's statement that "only a limited number of sample locations were included in the aliphatic hydrocarbon C19-C36 analysis" is not correct. C19-C36 was measured in all toxicity samples, both in the Study Area and reference areas. The confounding factor analysis focused on those samples with C19-C36 values exceeding a literature-based benchmark (as is typical practice in risk assessment) AND low PAH concentrations. The reason for this focus is as follows: for samples with elevated PAH concentrations, a potential default assumption is that PAHs are the driving force behind the biological response (even though this may not be true in samples with elevated concentrations of other anthropogenic chemicals). For samples with low PAH and low C19-C36, neither chemical is considered a likely cause of biological response, and so these samples are considered appropriate to include in the PAH concentration-response

relationship. For samples with low PAH and elevated C19-C36, the current scientific literature suggests that PAHs are unlikely to be a cause of any observed toxicity. This same type of analysis was conducted for those samples where SEM TUs were greater than 1, with the same conclusions.

EPA, its technical consultants, and other regulatory stakeholders, are well aware of the valid technical basis of using porewater as a primary exposure vehicle and the presence and impact of non-CERCLA stressors in Newtown Creek. This action defies current science and is driven by non-technical rationale that is in inconsistent with the current EPA guidance and best scientific practices.

10-day Sediment Toxicity Test Results

The following provides a response to EPA's comment ID No. 11 concerning the 10-day sediment toxicity test.

EPA want the results of the 10-day acute and 28-day chronic sediment toxicity tests to be given equal consideration in the BERA. Furthermore, EPA want statements in the BERA regarding the static conditions and the lack of feeding in the 10-day test removed from the main text and included in the uncertainty section. The NCG disagrees with this based on the scientific literature and the findings presented in the BERA.

Sediment toxicity tests were conducted for the BERA using the amphipod, *Leptocheirus plumulosus*. The tests consisted of an acute 10-day survival test and chronic 28-day tests for survival, reproduction and growth. As discussed in the BERA (Sections 8.3.3.1, 8.3.3.5, 8.3.36), because the 10-day test is a static test with no renewal of the overlying water and because the organisms are not fed during the test, the health of the organisms and performance of the test is impacted (McGee et al. 1993 and 2004). McGee et al. (2004) cite a bioaccumulation study by Harkey et al (1997) with the freshwater

amphipod, *Hyalella*, exposed to fluoranthene, in which unfed *Hyalella* had lower survival compared to fed *Hyalella.*

The impact of these test conditions is expressed in variability in the test results as discussed by Kennedy et al. (2009), and as demonstrated in the BERA by a contingency analysis of the test results (Section 8.3.3.6). The contingency analysis was performed with two datasets—one including all triad stations and one without the anthropogenic confounding factor stations. For these two datasets, the false positive and false negative error rates were determined for each test endpoint using three TU values to illustrate the sensitivity of the toxicity endpoint. For all test endpoints (10-day survival and 28-day survival, growth, and reproduction), false positive decision error rates are substantially higher with the confounding factor stations included in the analysis. When the confounding factor stations are removed, the false positive error rates decline to zero for the 28-day survival test, less than 3% for the 28-day growth tests (based on biomass and weight), and to less than 6% and 5% for the 28-day reproduction per surviving amphipod, and 28-day reproduction per surviving female amphipod, respectively. In contrast, for the 10-day test, when the confounding factor stations are removed, the false positive error rates remain at approximately 12%. This finding is consistent with the compromised test performance across the test samples due to a lack of feeding and static test conditions, indicating that increased sensitivity in unfed organisms is a function of organism condition rather than differences in exposure. Due to the lack of feeding or water renewal, the test animals were likely to experience environmental stressors unrelated to chemical exposure.

Based on these findings and discussion in the scientific literature, the results of the 10-day test are considered to be biased toward low survival. This is an important consideration in the interpretation of the sediment toxicity test results given the significance of sediment toxicity testing as a line of evidence in

the BERA. Excluding a discussion of the deficiencies in the 10-day test from the main body of the report would be misleading, and give the appearance that the results of the 10-day acute test should be given equal consideration as the 28-day chronic tests, when this is clearly not the case. Furthermore, discussion of deficiencies and bias in the 10-day test should not be confined to the uncertainty section of the report as directed by EPA.

Other Items for Dispute

The following provides a summary of other dispute items the NCG would like to include for discussion with EPA.

Wildlife Seasonal Exposures

For the wildlife risk assessment, EPA states that the BERA should include a seasonal exposure of 1 for all receptors to provide bounding risk estimates in the risk characterization and not confine this analysis to the uncertainty section of the document (Comment ID No's 180, 181, 182, and 239). EPA's rationale is that "the selection of seasonal exposure does not appear to have taken into account the avian surveys that were conducted in the creek and reference areas." That is correct, the selection of seasonal exposure was *not* based on the field surveys, but was collected from the scientific literature and databases of wildlife surveys. Therefore, the seasonal exposures used in the BERA are supported by the literature, and are applicable for use in the risk estimates. It is therefore not necessary to include an arbitrary seasonal exposure of 1 in the risk estimates. As presented in the NCG's response to comments in 8/1/2016, the impact of using a seasonal exposure of 1 for all receptors can be discussed in the uncertainty section of the BERA.

Selection of Fish and Wildlife TRVs

EPA's position is that it is inappropriate to use geometric mean NOAELs and LOAELs as TRVs in the wildlife SLERA and baseline analyses, and that additional supporting evidence should be provided for the selection (Comment ID No's 6 and 72).

The NCG would like to clarify its approach to selection of TRVs. The wildlife TRVs (NOAELs and LOAELs) used in the BERA are the same TRVs presented in previous EPA approved screening level ecological risk assessment (SLERA) documents in 2012 and in 2013 (Anchor QEA 2012, 2013). The first of these presented the screening levels to be used in the SLERA, while the second presented the results of conducing a SLERA using the Phase 1 data. Second, it should also be noted that geometric mean TRVs are only used for a subset of the chemicals evaluated where applicable. For many of the chemicals evaluated, values were selected from paired NOAELs and LOAELs. The geometric mean TRVs that were selected are the same as those selected by EPA in the EcoSSL documents. EPA went through a rigorous process to select the TRVs that consisted of reviewing all available studies, scoring their quality, and eliminating studies that did not meet their quality criteria. EPA then used a systematic process to select the TRV. Given this rigorous approach, it does not make sense for the BERA to re-invent this process. The NCG proposes to clarify its approach by providing additional information in the BERA to support selection of TRVs for the SLERA as well as for the baseline analyses.

White Perch

EPA states that white perch should be used in the BERA risk analyses as a replacement for spot (Comment ID No's. 45, 158, and 213). As demonstrated by the Phase 2 field surveys, very few white perch were found in the Phase 2 surveys. The low numbers of white perch found is

supported by NOAA Fisheries data. A query of catch time series for 1981 through 2016 shows that there are very white perch in the NY Harbor area. Because there were insufficient numbers of white perch to meet the DQOs, a decision was made at the time of collection to not include white perch in the BERA because they are not needed given that their role is fulfilled by other fish that are included in the BERA. Lastly, it is noted that in a 10/26/2016 document from EPA on the FS related biota sampling, neither white perch nor spot are required. Presumably, EPA *also* agrees that these species are not needed for the BERA.

Additional Responses to be Discussed with EPA

The following is a list of responses that require additional discussion with EPA to clarify responses that are confusing and/or appear to be contradictory. The NCG would like to meet with EPA as quickly as possible to agree upon a path forward for addressing these responses.

- Polychaete/sediment regression (Comment ID Nos. 186 and 269)

Surface water screening levels (Comment ID No. 216)

Conclusions

For the reasons set forth above, the NCG invokes Dispute Resolution. We look forward to meeting with EPA to attempt to informally resolve the dispute.

Sincerely,

W. David Bridgers

Common Counsel for the Newtown Creek Group

WDB/lsa

cc: Angela Carpenter, EPA
Michael Sivak, EPA
Mark Schmidt, EPA
Edward Leonard, CDM Smith
Joseph Mayo, CDM Smith
Ian Beilby, NYSDEC, Division of Environmental Remediation
Tom Schadt, Anchor QEA
Susan Amron, Esq., counsel for the City of New York
Robert D. Fox, Esq., outside counsel for the City of New York
Ron Weissbard, New York City Department of Environmental Protection

References

AECOM (AECOM Environment), 2011. *Remedial Investigation/Feasibility Study Work Plan.* Newtown Creek. June 2011.

Anchor QEA (Anchor QEA, LLC), 2014a. *Phase 2 Remedial Investigation Work Plan – Volume 1.* Remedial Investigation/Feasibility Study, Newtown Creek. May 2014.

Anchor QEA, 2014b. *Baseline Ecological Risk Assessment Problem Formulation.* Draft Final. Remedial Investigation/Feasibility Study, Newtown Creek. April 2014.

Anchor QEA, 2016. *Baseline Ecological Risk Assessment.* Draft. Remedial Investigation/Feasibility Study, Newtown Creek. February 2016.

Burgess, R.M., 2009. *Evaluating Ecological Risk to Invertebrate Receptors from PAHs in Sediments at Hazardous Waste Sites.* Prepared for U.S. Environmental Protection Agency, Ecological Risk Assessment Support Center. EPA/600/R-06/162.

Burgess et al. (Burgess, R.M., W.J. Berry, D.R. Mount, and D.M. DiToro), 2013. Mechanistic sediment quality guidelines based on contaminant bioavailability: equilibrium partitioning sediment benchmarks. *Environmental Toxicology and Chemistry* 32(1):102-114.

EPA (U.S. Environmental Protection Agency), 1989. *Risk Assessment Guidance for Superfund Volume 1 Human Health Evaluation Manual (Part A), Interim Final.* Office of Emergency and Remedial Response. EPA/540/1-89. December 1989.

EPA, 1997. *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final.* Solid Waste and Emergency Response. EPA-540/R-97-006. OSWER 9285.7-25. June 1997.

EPA, 2002. *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites.* Office of Emergency and Remedial Response. OSWER 9285.7-41. September 2002.

EPA, 2003. *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures.* Office of Research and Development. EPA 600-R-02-013. January 2005.

EPA, 2005. *Procedures for the derivation of equilibrium partitioning sediment benchmarks (ESBs) for the protection of benthic organisms: Metal mixtures*. EPA600/R-02/011. Technical Report, Washington, DC.

EPA, 2012. *Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: Procedures for the Determination of the Freely Dissolved Interstitial Water Concentrations of Nonionic Organics*. Office of Research and Development. EPA/600/R-02/012. December 2012.

Harkey et al. (Harkey, G.A., S. Kane Driscoll, P.F. Landrum), 1997. Effect of feeding in 30-day bioaccumulation assays using *Hyalella azteca* in fluoranthene- dosed sediment. *Environmental Toxicology and Chemistry* 16(4):762–769.

Kennedy et al. (Kennedy, A.J., J.A. Steevens, G.R. Lotufo, J.D. Farrar, M.R. Reiss, R.K. Kropp, J. Doi, T.S. Bridges), 2009. A Comparison of Acute and Chronic Toxicity Methods for Marine Sediments. *Marine Environmental Research* 68(3):118-127.

McGee et al. (McGee, B.L., C.E. Schlekat, and E. Reinharz), 1993. Assessing sublethal levels of sediment contamination using the estuarine amphipod *Leptocheirus plumulosus*. *Environmental Toxicology and Chemistry* 12(3):577–587.

McGee et al. (McGee, B.L., D.J. Fisher, D.A. Wright, L.T. Yonkos, G.P. Ziegler, S.D. Turley, J.D. Farrar, D.W. Moore, and T.S. Bridges), 2004. A field test and comparison of acute and chronic sediment toxicity tests with the estuarine amphipod *Leptocheirus plumulosus* in Chesapeake Bay, USA. *Environmental Toxicology and Chemistry* 23(7):1751-61.